

In the Claims

Please enter the following claims:

1. (currently amended) An electrophoresis gel plate for ~~analysing~~ analyzing or separating macromolecules in a ~~mixture~~ mixture, the electrophoresis gel plate comprising a ~~polymerised~~ polymerized gel matrix supported by a hydrophilic microporous membrane.
2. (currently amended) The electrophoresis gel plate of claim 1, wherein the ~~polymerised~~ polymerized gel matrix comprises a cross-linked polyacrylamide gel.
3. (currently amended) The electrophoresis gel plate of ~~claims 1 or 2~~, claim 1, wherein the ~~polymerised~~ polymerized gel matrix comprises about 2.5 - 10.0% total acrylamide concentration.
- 4-17. (canceled)
18. (currently amended) The electrophoresis gel plate of ~~any one of claims 1-17~~, claim 1, wherein the ~~polymerised~~ polymerized gel matrix is a hydrogel.
19. (currently amended) The electrophoresis gel plate of ~~any one of claims 1-17~~, claim 1, wherein the ~~polymerised~~ polymerized gel matrix is an isoelectric ~~focussing~~ focusing gel.
20. (canceled)
21. (currently amended) The electrophoresis gel plate of claim ~~[[20,]]~~ 19, wherein the ~~polymerised~~ polymerized gel matrix is a fixed pH isoelectric gel matrix.
22. (currently amended) The electrophoresis gel plate of claim ~~[[21,]]~~ 19, wherein the ~~polymerised~~ polymerized gel matrix comprises covalently attached buffers.
23. (currently amended) The electrophoresis gel plate of claim ~~[[21,]]~~ 19, wherein the ~~polymerised~~ polymerized gel matrix comprises acrylamido buffers co-polymerised with polyacrylamide.
24. (currently amended) The electrophoresis gel plate of ~~any one of claims 19-23~~, claim 19, wherein the isoelectric ~~focussing~~ focusing gel matrix comprises a pH value of between 2 and 12.
- 25-32. (canceled)

26. (currently amended) The electrophoresis gel plate of ~~any one of claims 19-25~~, claim 1, wherein the polymerised gel matrix is suitable for use in a multi-compartment electrolyser apparatus.

27-32. (canceled)

33. (currently amended) The electrophoresis gel plate of ~~any one of claims 1-32~~, claim 1, wherein the gel matrix is about 10% (v/v) thickness of the thickness of the microporous substrate.

34-39. (canceled)

40. (currently amended) The electrophoresis gel plate of ~~any one of claims 1-32~~, claim 1, wherein the gel matrix is a monolayer.

41. (currently amended) The electrophoresis gel plate of ~~any one of claims 1-40~~, claim 1, wherein the hydrophilic microporous membrane is constructed of a polymeric material.

42. (canceled)

43. (currently amended) The electrophoresis gel plate of claim 41, wherein the microporous membrane is ~~constructed of~~ comprises a cellulosic material.

44-45. (canceled)

46. (currently amended) The electrophoresis gel plate of ~~any one of claims 1-40~~, claim 1, wherein the ~~hydrophilic~~ microporous membrane comprises a porous substrate, and an insoluble cross-linked hydrophilic material.

47-49. (canceled)

50. (currently amended) The electrophoresis gel plate of claim ~~[[48,]]~~ 46, wherein the porous ~~polymer~~ substrate comprises a polymer selected from the group consisting of poly(tetrafluoroethylene), polyvinylidene fluoride (PVDF), polyethylene, ultra-high molecular weight polyethylene (UPE), polysulfone, polyethersulfone, polypropylene, polymethylpentene, polyethylene terephthalate, polybutylene terephthalate, polyvinyl chloride and polyacrylonitriles.

51-61. (canceled)

62. (currently amended) A ~~process of preparing an~~ method of making the electrophoresis gel plate ~~according to~~ of claim 1, the method comprising wetting ~~[[a]]~~ the hydrophilic microporous substrate with a casting solution, and treating the casting solution to effect ~~polymerisation~~ polymerization, ~~to form a polymerised gel matrix supported by the hydrophilic microporous substrate.~~

63-73. (canceled)

74. (currently amended) A method of ~~analysing~~ analyzing or separating macromolecules in a mixture comprising: (i) placing the mixture of macromolecules in a separator apparatus comprising at least one electrophoresis gel plate and (ii) performing electrophoresis on the mixture wherein the electrophoresis gel plate comprises a ~~polymerised~~ polymerized gel matrix supported by a hydrophilic microporous membrane.

75-79. (canceled)

80. (currently amended) A kit for ~~analysing~~ analyzing or separating macromolecules in a mixture, the kit comprising one or more electrophoresis gel plates ~~according to claims 1-61, of claim 1, and buffers.~~ buffers and optionally instructions for use.

81. (currently amended) The kit of claim 80, wherein the kit further comprises ~~any one or more of the following:~~ at least one component selected from the group consisting of urea, thiourea, CHAPS~~[[,]]~~ and carrier ampholytes ~~or in a multicompartment electrolyser apparatus.~~

82-83. (canceled)

84. (new) The kit of claim 80, wherein the kit further comprises a multicompartment electrolyser apparatus.

85. (new) The kit of claim 80, wherein the kit further comprises instructions for use.